

11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR
& (2) TYPE No.

| LINE No. | TYPE No. | 1 MIN. DERATE J to C (W/C) | MAX FREE AIR @ 25°C (W) | M T A E M P | ABSOLUTE MAX. RATINGS @ 25°C | | | | | MAX. hFE | | MIN | MAX | f _{ae} (Hz) | MAX. SAT. RES. (Ω) | tr (s) | STRUC-TURE | DWG # Y200 s/a TO200 Ser. | L E O D E |
|----------|------------|----------------------------|-------------------------|-------------|------------------------------|--------|----------------------|----------------------|----------------------|-----------------------------|---------------------|------|-------|----------------------|--------------------|--------|------------|---------------------------|-----------|
| | | | | | Ic (A) | Ib (A) | V _{cb0} (V) | V _{eb0} (V) | V _{ce0} (V) | Ic _{BO} @ 25°C (A) | V _{cb} (V) | | | | | | | | |
| 1# | TN4037# | 9.6m | 1.2 | \$J | 1.0 | 60 | 7.0 | 40 | 2.25 | 100 | 150 | 50 | 250 | 60MΔ | | | EPLΔ | TO237 | A |
| 2 | JAN2N3418† | 10m | 1.0 | \$A | 3.0 | 85 | 8.0 | 60 | 500n# | 2.0 | 1.0 | 20 | 60 | 40MΔ | 300n∅ | | | TO5 | A |
| 3 | JAN2N3419† | 10m | 1.0 | \$A | 3.0 | 125 | 8.0 | 80 | 500n# | 2.0 | 1.0 | 20 | 60 | 40MΔ | 300n∅ | | | TO5 | A |
| 4 | JAN2N3420† | 10m | 1.0 | \$A | 3.0 | 85 | 8.0 | 60 | 500n# | 2.0 | 1.0 | 20 | 60 | 40MΔ | 300n∅ | | | TO5 | A |
| 5 | JAN2N3421† | 10m | 1.0 | \$A | 3.0 | 125 | 8.0 | 80 | 500n# | 2.0 | 1.0 | 20 | 60 | 40MΔ | 300n∅ | | | TO5 | A |
| 6 | 2N5079 | 10m | 1.8 ∅ | \$S | 1.0 | 60 | 5.0 | 30 | 10n∅ | 100 | 150m | 100 | 300 | 40MΔ | 1.0 | | | TO18 | A∅ |
| 7 | 2N5080 | 10m | 1.8 ∅ | \$S | 1.0 | 60 | 5.0 | 30 | 10n∅ | 100 | 150m | 200 | 500 | 50MΔ | 1.0 | | | TO18 | A∅ |
| 8# | 25C1514 | 10m∅ | 1.2 | \$J | 100m | 300 | 5.0 | 300 | 1.0uΔ | 200 | 20m | 30 | 200 | 80MΔ | 75 | | | B11 | D |
| 9# | 25C1516K† | 10m∅ | 1.2 | \$J | 1.5 | 35 | 5.0 | 35 | 20u∅ | 2.0 | 500m | 60 | 320 * | 110MΔ | 500m | | | B11 | D |
| 10# | 25C1517AK† | 10m∅ | 1.2 | \$J | 1.0 | 80 | 4.0 | 80 | 5.0u∅ | 4.0 | 50m | 40 | 320 * | 11MΔ | 1.5 | | | B11 | D |
| 11# | 25C2780 | .01 | 2.0 | \$J | 50m | 140 | 5.0 | 140 | 100n | 1.0 | 10m | 90 | 400 * | 120MΔ | | | | X166 | B |
| 12# | 25D999 | .01 | 2.0 | \$J | 1.0 | 30 | 5.0 | 25 | 100n | 1.0 | 100m | 200 | 400 * | 130MΔ | | | | X166 | B |
| 13# | 25D1000 | .01 | 2.0 | \$J | 70 | 60 | 5.0 | 50 | 100n | 1.0 | 100m | 200 | 400 * | 110MΔ | | | | X166 | B |
| 14# | 25D1001 | .01 | 2.0 | \$J | 300m | 80 | 5.0 | 80 | 100n | 1.0 | 50m | 200 | 400 * | 140MΔ | | | | X166 | B |
| 15# | 25D1005 | .01 | 2.0 | \$J | 1.0 | 100 | 5.0 | 80 | 100n | 2.0 | 100m | 200 | 400 * | 160MΔ | | | | X166 | B |
| 16# | BD165 #1 | 10m | 1.2 | \$S | 1.5 | 45 | 5.0 | 45 | 2.0 | 500m | 15 | # | | 3.0MΔ | | | | B16† | B |
| 17# | BD167 #1 | 10m | 1.2 | \$S | 1.5 | 60 | 5.0 | 60 | 2.0 | 500m | 15 | # | | 3.0MΔ | | | | B16† | B |
| 18# | BD169 #1 | 10m | 1.2 | \$S | 1.5 | 80 | 5.0 | 80 | 2.0 | 500m | 15 | # | | 3.0MΔ | | | | B16† | B |
| 19# | BD175 #1 | 10m | 1.2 | \$S | 3.0 | 45 | 5.0 | 45 | 2.0 | 150m | 40 | # | 236 | 3.0MΔ | | | | B16† | B |
| 20# | BD177 #1 | 10m | 1.2 | \$S | 3.0 | 60 | 5.0 | 60 | 2.0 | 150m | 40 | # | 236 | 3.0MΔ | | | | B16† | B |
| 21# | BD179 #1 | 10m | 102 | \$S | 3.0 | 80 | 5.0 | 80 | 2.0 | 150m | 40 | # | 236 | 3.0MΔ | | | | B16† | B |
| 22# | BD233 #1 | 10m | 102 | \$S | 2.0 | 45 | 5.0 | 45 | 2.0 | 150m | 40 | # | | 3.0MΔ | | | | B16† | B |
| 23# | BD235 #1 | 10m | 102 | \$S | 2.0 | 60 | 5.0 | 60 | 2.0 | 150m | 40 | # | | 3.0MΔ | | | | B16† | B |
| 24# | BD237 #1 | 10m | 102 | \$S | 2.0 | 80 | 5.0 | 80 | 2.0 | 150m | 40 | # | | 3.0MΔ | | | | B16† | B |
| 25# | BF415 | 10m | 1.2 | \$S | 200m | 250 | 5.0 | 250 | 50n | 15 | 5.0m | 25 | | 70MΔ | | | EPL | B16† | B |
| 26# | BF417 | 10m | 1.2 | \$S | 200m | 300 | 5.0 | 300 | 50n | 15 | 5.0m | 25 | | 70MΔ | | | EPL | TO39 | A∅ |
| 27# | BFY65 | 10m | 1.3 ∅* | \$J | 100m | 100 | 7.0 | 80 | 500u | 2.0 | 15m | 30 | | 50MΔ | | | PE | TO92 | A |
| 28# | JE8050 | .01 | 2.0 | \$J | 1.5 | 40 | 6.0 | 25 | 100n | 1.0 | 100 | 160 | 300 * | 190MΔ | | | | TO92 | A |
| 29 | 2N2991 | 11m | 2.0 | \$C | 1.0 | 95 | 7.0 | 80 | 30n | 5.0 | 200m | 25 | 75 # | 30MΔ | | | | T13 | A∅ |
| 30 | 2N2992 | 11m | 2.0 | \$C | 1.0 | 155 | 7.0 | 100 | 30n | 5.0 | 200m | 25 | 75 # | 30MΔ | | | | T13 | A∅ |
| 31 | 2N2993 | 11m | 2.0 | \$C | 1.0 | 95 | 7.0 | 80 | 30n | 5.0 | 200m | 60 | 120 # | 30MΔ | | | | T13 | A∅ |
| 32 | 2N2994 | 11m | 2.0 | \$C | 1.0 | 155 | 7.0 | 100 | 30n | 5.0 | 200m | 60 | 120 # | 30MΔ | | | | TO46 | A |
| 33 | 2N5581† | 11m | 2.0 ∅ | \$S | 800m | 75 | 6.0 | 40 | 10n∅ | 100 | 20 | | | 250MΔ | | | | TO46 | A |
| 34 | 2N5582† | 11m | 2.0 ∅ | \$S | 800m | 75 | 6.0 | 40 | 10n∅ | 100 | 35 | | | 300MΔ | | | | TO66 | C∅ |
| 35 | JAN2N5660† | 11m∅ | 2.0 | \$A | 2.0 | 250 | 6.0 | 200 | 1.0m | 5.0 | 500m | 40 | 120 # | 20MΔ | 25n | | | TO66 | C∅ |
| 36 | JAN2N5661† | 11m∅ | 2.0 | \$A | 2.0 | 400 | 6.0 | 300 | 1.0m | 5.0 | 500m | 25 | 75 # | 20MΔ | 25n∅ | | | TO66 | C∅ |
| 37# | 25C2637 | 11m | 1.4 | \$J | 100m | 300 | 7.0 | 300 | 10u | 5.0 | 5.0m | 50 | 250 | 17MΔ | | | PE | B156 | B |
| 38 | 40081 | 11m | 2.0 ∅ | \$J | 250m | | 2.0 | | 500n∅ | 1.5 | 1.0 | 30 | 120 # | 200MΔ | 900m | 40n∅ | DPL | TO5 | A∅ |
| 39 | MM3736 | 11m | 2.0 ∅ | \$J | 1.5 | 50 | 5.0 | 30 | 10u | 1.5 | 1.0 | 30 | 80 # | 200MΔ | 900m | 40n∅ | AN | TO46 | A∅ |
| 40 | MM3737 | 11m | 2.0 ∅ | \$J | 1.5 | 75 | 5.0 | 50 | 10u | 1.5 | 1.0 | 30 | 80 # | 200MΔ | 900m | 40n∅ | AN | TO39 | A |
| 41 | SCA3522 | 11m | 2.0 ∅ | \$J | 250m | 70 | 4.0 | 40 | | | | | | 150MΔ | | | | TO5 | A |
| 42 | ST6510 | 11m∅ | | \$S | | 20 | 2.0 | 20 | | 10 | 15 | 20 | | | | | | TO5 | A |
| 43 | ST6511 | 11m∅ | | \$S | | 40 | 2.0 | 20 | | 10 | 15 | 20 | | | | | | TO5 | A |
| 44 | ST6512 | 11m∅ | | \$S | | 40 | 2.0 | 20 | | 10 | 15 | 20 | | | | | | TO5 | A |
| 45 | ST7200 | 11m | 45 ∅* | \$A | 5.0 | 80 | 4.0 | 80 | 20m∅ | 1.0 | 12 # | | | 8.0M† | 6.0 | | ME | TO61 | A |
| 46 | TS-1134 | 11m | 1.9 | \$J | 500m | 75 | 6.0 | 40 | 50u | 10 | 10m | 75 | | 200MΔ | 27n* | | | TO116 | A |
| 47 | UPTA510† | 11m | 1.5 | \$A | 500m | 150 | 5.0 | 100 | 10u | 5.0 | 500m | 8.0 | | 15MΔ | 2.5 | 270n# | | TO92 | A |
| 48 | UPTA520† | 11m | 1.5 | \$A | 500m | 250 | 5.0 | 200 | 10u | 5.0 | 500m | 8.0 | | 15MΔ | 2.5 | 200n# | | TO92 | A |
| 49 | UPTA530† | 11m | 1.5 | \$A | 500m | 350 | 5.0 | 300 | 10u | 5.0 | 500m | 8.0 | | 15MΔ | 2.5 | 200n# | | TO92 | A |
| 50 | UPTB520† | 11m | 1.5 | \$A | 100m | 250 | 5.0 | 200 | 10u | 5.0 | 100m | 5.0 | | 15MΔ | 24 | 1.0u# | | TO92 | A |
| 51 | UPTB530† | 11m | 1.5 | \$A | 100m | 350 | 5.0 | 300 | 10u | 5.0 | 100m | 5.0 | | 15MΔ | 24 | 1.0u# | | TO92 | A |
| 52 | UPTB540† | 11m | 1.5 | \$A | 100m | 450 | 5.0 | 400 | 10u | 5.0 | 100m | 5.0 | | 15MΔ | 24 | 1.0u# | | TO92 | A |
| 53 | UPTB550† | 11m | 1.5 | \$A | 100m | 550 | 5.0 | 500 | 10u | 5.0 | 100m | 5.0 | | 15MΔ | 24 | 1.0u# | | TO92 | A |
| 54# | ZTX450 | 11m | 2.0 | \$S | 1.0 | 200m | 60 | 5.0 | 45 | 100n∅ | 100 | # | 300 # | 150MΔ | 1.6 | | PL† | B58 | A |
| 55# | ZTX451 | 11m | 2.0 | \$S | 1.0 | 200m | 80 | 5.0 | 80 | 100n∅ | 100 | # | 150 # | 150MΔ | 2.3 | | PL† | B58 | A |
| 56# | ZTX452 | 11m | 2.0 | \$S | 1.0 | 200m | 100 | 5.0 | 100 | 100n∅ | 100 | # | 200 # | 150MΔ | 4.7 | | PL† | B58 | A |
| 57# | ZTX453 | 11m | 2.0 | \$S | 1.0 | 200m | 120 | 5.0 | 100 | 100n∅ | 100 | # | 200 # | 150MΔ | 4.7 | | PL† | B58 | A |
| 58 | 2N2239 | 12m | 1.0 | \$J | 500m | 60 | 8.0 | 50 | 10u∅ | 10 | 200m∅ | 30 | 200 # | | 15 # | | | F8 | A∅ |
| 59 | 2N2952 | 12m | 1.8 | \$J | 250m | | 5.0 | 50 | 100p∅ | 10 | 20 | 150 | | 200MΔ | 3.3 | | PL | TO18 | A∅ |
| 60# | 25C130 | 12m | 1.8 | \$J | 400m | 60 | 5.0 | 50 | 100n∅ | 10 | 20mΔ | 20 † | 150 | 140M† | | | EM | TO8 | A |
| 61# | 25C234 | 12m | 1.8 | \$J | 1.5 | 100 | 5.0 | 200 | 100p∅ | 10 | 20mΔ | 17 † | 100M | | | EM | TO8 | A | |
| 62# | 25C236 | 12m | 1.8 | \$J | 500m | 90 | 5.0 | 200 | 1.0u∅ | 10 | 50m | 80 ∅ | | 100M | 40 | 1.0u | PEΔ | B44 | D∅ |
| 63# | 25C2425† | 12m∅ | 1.5 | \$J | 100m | 300 | 5.0 | 200 | 1.0u∅ | 10 | 50m | 80 ∅ | | 100M | 40 | 1.0u | PE | B26 | D |
| 64# | 25C2633 | 12m | 1.5 | \$J | 50m | 150 | 5.0 | 150 | 1.0u | 5.0 | 10m | 65 | 450 | 160MΔ | | | | TO126 | B |
| 65 | MJE200□ | 12m∅ | 1.5 | \$J | 5.0 | 40 | 8.0 | 25 | 100n | 1.0 | 2.0 | 45 | 180 # | 65MΔ | 2.0 | | | TO5 | A∅ |
| 66 | 2N1092† | 13m | 2.0 ∅ | \$A | 500m | 60 | 12 | 30 | 500u | 4.0 | 200m | 15 | 75 | 1.5M† | 10 | 1.2u | D | TO5 | A∅ |
| 67 | 2N1644 | 13m | 2.0 ∅ | \$C | 250m | 60 | 5.0 | 60 | 100n | 10 | 150m | 40 | 120 | 50MΔ | 10 | | | TO5 | A∅ |
| 68 | 2N3295 | 13m | 1.5 | \$A | 1.0 | 60 | 5.0 | 60 | 20u∅ | 10 | 20m | 20 | 60 | 200MΔ | 3.3 | | | F8 | A∅ |
| 69 | 2N5280 | 13m | 1.5 | \$A | 1.0 | 400 | 7.0 | 300 | 20u∅ | 10 | 20m | 40 | 160 | 15MΔ | 10 | | | F8 | A∅ |
| 70# | 25C22 | 13m | 1.3 ∅ | \$J | 600m | 75 | 5.0 | 50 | 2.0u∅ | 10 | 150m | 20 | 100 | | 2.4 | | | TO8 | A∅ |
| 71# | 25C23 | 13m | 1.3 ∅ | \$J | 500m | 75 | 5.0 | 50 | 5.0u∅ | 10 | 150m | 20 | 100 | 110MΔ | 2.4 | | | TO8 | A∅ |
| 72# | 25C24 | 13m | 1.3 ∅ | \$J | 500m | 100 | 5.0 | 70 | 5.0u∅ | 10 | 150m | 20 | 100 | 110MΔ | 2.4 | | | TO8 | A∅ |
| 73# | 25C916† | 13m∅ | 2.0 | \$J | 1.5 | 100 | 5.5 | 70 | 10u∅ | 1.0 | 400m | 70 ∅ | | 480m | 63n∅ | PE | TO8 | A∅ | |
| 74# | 25C1073 | 13m | 2.0 | \$J | 1.5 # | 36 | 4.0 | 18 | 5.0 | 13 | 100m | 20 | 90 # | 1.0G | | | PE | T98 | V |
| 75# | 71T2 | 13m | 2.0 | \$J | | 80 | 5.0 | 60 | 50uΔ | 2.0 | 1.0 | 30 | 90 # | | | | | F8 | A∅ |
| 76# | 72T2 | 13m | 2.0 | \$J | | 80 | 5.0 | 60 | 50uΔ | 2.0 | 1.0 | 75 | 200 # | | | | | F8 | A∅ |
| 77# | 73T2 | 13m | 2.0 | \$J | | 80 | 5.0 | 60 | 75u | 10 | 200m | 30 | 90 # | | | | | F8 | A∅ |
| 78# | 74T2 | 13m | 2.0 | \$J | | 80 | 5.0 | 60 | 75u | 10 | 200m | 75 | 200 # | | | | </ | | |